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Research article

Fear and guilt in proposers: Using emotions to explain offers in ultimatum bargaining

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Abstract

We argue that offers in bargaining are guided by the emotions that proposers anticipate when contemplating their offers. In particular, we reason that positive offers may be driven by fear and guilt, where fear is more related to the perceived consequences of having one's offer rejected, and guilt is more related to concerns for the opponents' outcomes. Two studies on ultimatum bargaining corroborate this view. In Study 1, we used two well-documented manipulations to affect the consequences of having one's offer rejected and the initial entitlements of one's opponent. Both factors affected offers: Offers were higher when the consequences of having one's offer rejected were lower, and when the initial entitlements of one's opponent were higher. In agreement with our predictions, the former effect was mediated by anticipated fear and the latter by anticipated guilt. In Study 2, we directly manipulated both mediators. The findings further corroborate our reasoning by showing that both feelings also have a direct effect on ultimatum offers. These findings highlight the potential contribution of studying specific emotions in bargaining behavior. Copyright © 2010 John Wiley & Sons, Ltd.

The assumption of self-interest that is central to the economic perspective on human behavior (e.g., Kahneman, 2003) seems to be consistently violated by research on ultimatum bargaining (for overviews see Güth & Tietz, 1990; Camerer & Thaler, 1995; Roth, 1995). Ultimatum bargaining (Güth, Schmittberger, & Schwarze, 1982) models the final step of negotiations in which a proposer offers a proportion of some commodity to a responder who decides to accept it or reject it. If accepted, the commodity is distributed as proposed. If rejected, both parties end up empty handed. Standard economic theory predicts that people should offer and accept the minimal positive amount. Yet findings show that proposers tend to make offers of about 30–40% of the total endowment, with a 50–50 split being the mode. This has spurred numerous empirical attempts to psychologically explain this behavior.

At first these outcomes were understood to indicate that proposers “often rely on what they consider a fair result” (Güth et al., 1982, p. 243). However, subsequent research indicated that proposers might also make such high offers because they expect that low offers will be rejected and that by making low offers they run the risk of ending up with nothing (e.g., Straub & Murnighan, 1995; Kagel, Kim, & Moser, 1996; Fellner & Güth, 2003). This suggests that high offers do not necessarily reflect a *concern for others*, but may be instigated by a concern for rejection, hence *for the own outcome*. Both concerns are invoked to explain outcomes of social

interactions involving elements of negotiations (e.g., McClintock, 1972; Loewenstein, Thompson, & Bazerman, 1989; Pruitt & Carnevale, 1993; Blount, 1995; Messick, 1995; De Dreu, Weingart, & Kwon, 2000; van Dijk & Vermunt, 2000).

The typical approach in studies that try to assess the impact of concerns for others or for rejection is to introduce variations of the standard ultimatum game and assess whether these variations affect the offers made by proposers (e.g., Fellner & Güth, 2003; Leliveld, van Dijk, & van Beest, 2008; van Dijk, van Kleef, Steinel, & van Beest, 2008). This approach, with its focus on offers, has yielded important insights. Still, we argue in the following that this approach is unlikely to yield consensus regarding the contribution of concerns for others or for rejection because offer size is an inherently ambiguous index of proposers' motives. We believe it is more fruitful to study psychological variables that reveal the process underlying ultimatum game decisions and that can be measured and manipulated directly. Hereto, we will draw attention to the impact of (anticipated) emotions on ultimatum offers, and outline how they may be related to proposers' motives in ultimatum bargaining.

Invisible Concerns

As stated, in the traditional ultimatum game, high offers can be the result of concerns for the outcomes of others but also of

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concerns for rejection of the own outcome. Studies in which the consequences of rejection were diminished suggest that a concern for rejection leads to high offers (e.g., Fellner & Güth, 2003; van Dijk et al., 2008). For example, Fellner and Güth (2003) varied the consequences of having one's offer rejected by the λ game. In this version of the ultimatum game, the consequences of rejection vary by a multiplication factor (λ) that determines the payoffs to proposers and responders in case of rejection. In case of rejection, responders receive the suggested payoff multiplied by $(1 - \lambda)$, while proposers receive the suggested payoff multiplied by λ . Thus, as λ decreases, the consequences having one's offer rejected become more severe to the proposer. In agreement with the notion that people make high offers out of a concern for the own outcome, results indicated that offers were higher when the consequences of rejection for one's own outcome were increased (i.e., when λ went down).

Whereas these findings suggest that high offers may be rooted in a concern for rejection of the own outcome, other studies have suggested that high offers may also result from a concern for other's outcomes. For example, in a recent study, Leliveld et al. (2008) manipulated initial ownership to introduce two new versions of the ultimatum game: The giving and the taking ultimatum game. Both games differ from the traditional ultimatum game in that the initial ownership of money is altered. In the giving ultimatum, the proposer owns the money that is to be distributed. In the taking ultimatum, the recipient owns the money. This simple change strongly affected offers in the sense that proposers allocated more of the money to the recipient in the taking game than in the giving game. As responders were perceived as more entitled to the money in a taking ultimatum (cf. Leliveld et al., 2008), proposers felt it was inappropriate to make low offers, indicative of an enhanced concern for the other's outcome in the taking game. Other research also indicates that proposers do well by taking the perceived fairness of their offers into account. Responders are willing to destroy a portion of their endowments rather than having this taken away by the proposer (Bosman, Sutter, & van Winden, 2005; Bosman & van Winden, 2002). At the same time, responders are also willing to accept offers at personal cost as long as they consider the proposal to be fair (Nelissen & van Someren, 2009).

Using different variations of the ultimatum game, the results of previous research suggest that when making offers, proposers anticipate what would happen if they would make a (too) low offer. The studies on the λ game suggest that people anticipate the consequences of having a low offer rejected; the studies on the taking and giving ultimatum game suggest that proposers anticipate the consequences of a low offer for their opponent. Still, the studies cited here did not yet reveal conclusive evidence for the underlying process. This prevents conclusions pertaining the proposers' motives based on the size of the offer.

Anticipated Emotions in Ultimatum Bargaining

Revealing the underlying process is of course not an easy task. One way to try and reveal this process would be to directly ask people why they did what they did. However, such a direct question may prove ineffective. First of all, because constructs

like furthering the own outcome or the outcomes of others may be considered rather abstract and to some even as a hypothetical constructs given that in bargaining, own and other's interests may to some extent coincide. Second, because people may, for example, be reluctant to say or admit that they put their own interests first. Finally, people may not have direct insight into the motives underlying their behavior. To shed more light on the underlying process, we decided to take a closer look at the role of anticipated emotions.

Functional theories of emotions (e.g., Keltner & Gross, 1999) acknowledge that distinct emotional states (e.g., fear) are associated with specific, implicit goals (e.g., to avoid risk) and action tendencies (e.g., running away) to accomplish this goal (cf. Arnold, 1960; Plutchik, 1980; Frijda, 1986; Roseman, Wiest, & Swartz, 1994). Taken to the domain of bargaining, these insights suggest that bargaining strategies with different objectives may be driven by different emotions. A few studies have already established influences of specific emotions on offers in ultimatum bargaining. Anticipating regret (Zeelenberg & Beattie, 1997), and experiencing gratitude (Tsang, 2006) or guilt (Ketelaar & Au, 2003) resulted in higher offers. For the current purposes, we are, however, primarily interested in the emotions that may reveal to what extent high offers are related to a concern that low offers would be rejected, and a concern that low offers would be inappropriate. Therefore, fear and guilt merit special attention as they are the only two emotions that specifically and directly relate to the motives that are assumed to be intrinsic to decisions in the ultimatum game.

Fear is likely to be related to the concern that low offers will be rejected because fear is associated with an implicit goal to *avoid personal risk* (cf. Roseman et al., 1994), which is the risk of rejection in an ultimatum game (cf. Zeelenberg & Beattie, 1997). So, we argue that the prospect of having their offers rejected elicits anticipated fear in proposers, which results in more generous offers to avoid rejection.

Unlike fear, guilt is a moral emotion that arises in response to the *concerns and interests of others* (Haidt, 2003). The distinction between decisions induced by guilt and by fear is best illustrated by Frank (1988, p.300), who asks us to "Consider [...] a person capable of strong guilt feelings. This person will not cheat even when it is in her material interest to do so. The reason is not that she fears getting caught but that she simply does not want to cheat." Indeed, guilt inhibits selfish tendencies in social interactions and induces behavior to repair harm that was caused to another person (e.g., Ketelaar & Au, 2003; De Hooze, Zeelenberg, & Breugelmans, 2007; Nelissen, Dijk, & De Vries, 2007). So, we argue that the prospect of making inadequate offers elicits anticipated guilt in proposers, which results in more generous offers to avoid an unfair outcome.

Overview of the Present Studies

To test the potential contributions of fear and guilt to ultimatum bargaining, we first investigated if these emotions could help to explain the previously listed effects of well-known situational variations in the ultimatum game. In Study 1, we tested if anticipated fear serves as a mediator of the effects on ultimatum offers of situational variations that supposedly affect concerns for rejection. We also tested if

anticipated guilt served as a mediator of the effects on ultimatum offers of situational variations that supposedly affect concerns for others. In Study 2, we induced fear or guilt in participants and observed whether both emotions also have direct effects on proposers' offers that mirror those of manipulations that presumably enhance concerns for rejection and concerns for others.

STUDY 1

In Study 1, we used the previously described paradigms related to concerns for rejection of the own outcome (the λ manipulation) and concerns for others' outcomes (the manipulation of initial ownership). In line with previous findings, we expected offers to decrease with decreasing λ values, which determine the proposers' outcome. Furthermore, if the λ manipulation indeed affects concerns for rejection of the own outcome, then anticipated fear of rejection should mediate the effect of the λ manipulation. Additionally, we expected higher offers in a taking than in a giving ultimatum (cf. Leliveld et al., 2008). If the manipulation of initial ownership in fact increases concerns for others, higher levels of anticipated guilt for making unfair offers should drive this effect.

Methods

Participants and Procedure

Participants were 119 undergraduate psychology students (83% female, $M_{\text{age}} = 21.2$ years, $SD = 1.83$) who completed questionnaires about hypothetical ultimatum game decisions after a lecture. The study had a $2(\lambda: \text{High}/\lambda = 0.9 \text{ vs. low}/\lambda = 0.1) \times 2(\text{initial ownership: Responder/taking vs. proposer/giving})$ between subjects design. Participants were randomly assigned to the experimental conditions.

Ultimatum Offers

Participants were asked to imagine that they were paired with someone else with whom they had to divide 100 Euros. In the giving ultimatum, participants were told the 100 Euros were in their possession and they had to decide how much they were willing to give to the other player. In the taking ultimatum, the other player possessed the money and participants had to indicate how much they wanted to take. Frames were represented by figures picturing two people at a table with a pile of coins either at the proposer's or at the responder's side (cf. Leliveld et al., 2008). Participants in the low λ ($\lambda = .1$) condition learned that if their offers were rejected, they would earn only 10% of the proposed amount, whereas the other player would still receive 90%. These percentages were reversed in the high λ condition.

Anticipated Emotions

After participants indicated their offers, we measured anticipated emotions. Anticipated fear was assessed by three items

asking participants to rate the extent to which they would feel "afraid", "worried", and "nervous" ($\alpha = .81$) about their offer being rejected if they would have offered less. To measure anticipated guilt, participants indicated to what extent they would "feel guilty", "feel bad for what they did", and "regret their decision" ($\alpha = .90$) in case they would have offered less. All emotions were assessed on scales from 1 (*not at all*) to 9 (*extremely*).

Manipulation Checks

To check the λ manipulation, participants computed the consequences of rejection for a hypothetical offer. To check the ownership manipulation, participants indicated "who initially owned the money", on a scale from 1 (*I completely owned the money myself*) to 9 (*the other player completely owned the money*).

Results

Manipulation Checks

Four participants incorrectly computed the consequences of rejection. Excluding them from analyses did not affect the results. A $\lambda \times \text{ownership}$ ANOVA on perceived ownership revealed only a main effect of ownership $F(1,119) = 6.17$, $p = .003$, $\eta^2 = 0.06$. Participants felt more entitled to the money in the giving ($M = 3.5$, $SD = 1.4$) than in the taking ultimatum ($M = 4.5$, $SD = 1.6$).

Ultimatum Offers

Average offers across experimental conditions are depicted in Figure 1. A $\lambda \times \text{ownership}$ ANOVA revealed significant main effects of both the λ manipulation, $F(1,119) = 10.08$, $p = .002$, $\eta^2 = 0.08$, and of the ownership manipulation, $F(1,119) = 9.03$, $p = .003$, $\eta^2 = 0.07$. The $\lambda \times \text{ownership}$ interaction was not significant. As predicted, offers were higher when λ was low ($M = 37.8$, $SD = 16.1$) than when λ was high ($M = 28.8$, $SD = 16.7$). Also in line with our expectations, proposers

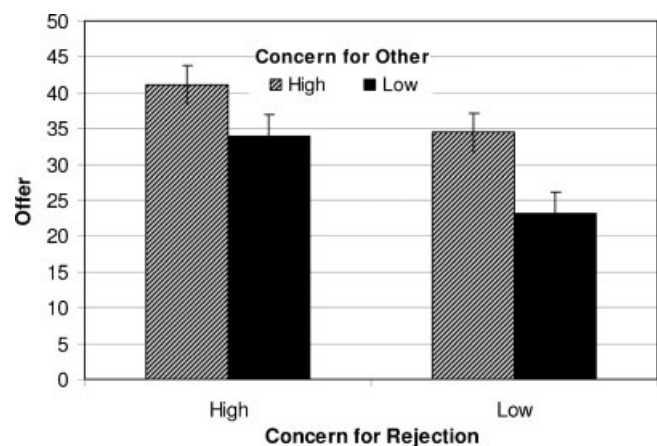


Figure 1. Average offer ($\pm SE$) by proposers under conditions of high or low concerns for rejection and of high or low concerns for others (Study 1)

Table 1. Mean ratings of anticipated fear and guilt under conditions of high or low concerns for rejection and of high or low concerns for others (Study 1)

Manipulation		Emotion			
Concern for rejection	Concern for other	Fear		Guilt	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Low	Low	3.71	1.86	3.86	2.20
	High	3.76	1.58	5.27	2.15
High	Low	5.09	2.07	4.11	1.92
	High	4.91	1.88	4.52	1.79

offered less in the giving ultimatum ($M = 28.9$, $SD = 16.9$) and more in the taking ultimatum ($M = 37.4$, $SD = 16.0$).

Anticipated Emotions

Mean levels of anticipated fear and guilt across experimental conditions are reported in Table 1. A $\lambda \times$ ownership ANOVA on anticipated fear revealed only a significant main effect of the λ manipulation, $F(1,119) = 13.76$, $p < .001$, $\eta^2 = 0.11$, indicating that participant anticipated more fear over lower offers if λ was low. An identical ANOVA on anticipated guilt revealed only a significant main effect of the ownership manipulation, $F(1,119) = 6.06$, $p = .015$, $\eta^2 = 0.05$, indicating that participants anticipated more guilt over lower offers in the taking ultimatum.

Mediation Analyses

Both anticipated fear ($r_{119} = .38$, $p < .001$) and anticipated guilt ($r_{119} = .37$, $p < .001$) were positively correlated with offer size. To test whether the effects of our manipulations were indeed mediated by the predicted emotions, we used the procedure prescribed by Barron and Kenny (1986). The effects of both manipulations were dummy-coded, and their interaction term was computed. Both main effects and the interaction term were subsequently entered as predictors in a regression analysis with offers as the dependent variable. We subsequently entered anticipated emotions as additional predictors and tested if the significant impact of the manipulations on offers were reduced by inclusion of the mediator. Separate regression models were used to test for the mediating effects of anticipated fear and guilt. Finally, we also computed the effect of each manipulation (and their interaction) on anticipated fear and guilt. Results of these analyses are summarized in Figures 2a and 2b.

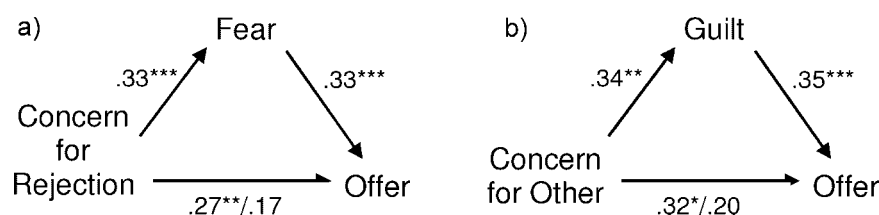


Figure 2. Summary of mediation analysis (a) by anticipated fear of the impact of high and low concerns for rejection, and (b) by anticipated guilt of the impact of high and low concerns for others on ultimatum offers (Study 1). *Note.* Numbers represent standardized regression coefficients. Values for the independent effects of fear and guilt on offers were obtained in the multiple regression. * $p < .05$. ** $p < .01$. *** $p < .001$

As expected, feelings of anticipated fear, Sobel $Z = 2.60$, $p = .001$ (but not guilt, Sobel $Z = -0.66$, *ns*), mediated the impact of the λ manipulation. Controlling for anticipated fear, the λ values no longer affected offers. Feelings of anticipated guilt, Sobel $Z = 2.26$, $p = .024$ (but not fear, Sobel $Z = -0.01$, *ns*), mediated the impact of the ownership manipulation. Controlling for anticipated guilt, ownership no longer affected offers.

Discussion

We investigated if anticipated fear and guilt affected ultimatum offers by testing whether each emotion uniquely accounted for the well-documented effects of manipulations of the standard ultimatum game on proposers' offers. We hypothesized that feelings of anticipated fear over low offers would reflect the extent to which proposers were concerned with avoiding rejection of their offers in an ultimatum game. Therefore, we expected that feelings of anticipated fear would mediate the effects of a manipulation that varies the consequences of rejection (i.e., the λ manipulation). Feelings of anticipated guilt on the other hand should reflect the extent to which proposers were concerned with the other player's outcome. Therefore, we expected that feelings of anticipated guilt would account for the effects of a manipulation that makes proposers more concerned with the other's outcome (i.e., the manipulation of initial ownership). The results supported our predictions. As shown in previous research, consequences of rejection (Fellner & Güth, 2003) and initial ownership (Leliveld et al., 2008) both affected ultimatum offers. Our results showed that the former effect was driven by anticipated fear of rejection. This suggests that anticipated fear connects to concerns for rejection of the own outcome. Similarly, the effect of ownership was driven by anticipated guilt. Hence, anticipated guilt over inadequate offers reflects the extent to which proposers take concerns for others into account.

These results offer initial support to the idea that feelings of fear and guilt underlie offers in ultimatum bargaining. In Study 2, we elicited fear and guilt directly to see if this increased offers in a similar fashion. Additionally, we used Study 2 to examine the impact of feelings of fear and guilt in a setting where decisions would have financial consequences.

STUDY 2

In Study 2, we experimentally induced feelings of fear or guilt in proposers and compared the effects thereof on ultimatum offers to those of a control group of proposers in which no

emotions were induced. We expected that direct inductions of fear and guilt would also cause more generous ultimatum offers, consistent with the effects of indirectly manipulating anticipated fear and guilt through concerns for rejection and for others.

It is our experience that the vast majority of undergraduate students in the social sciences tend to offer equal splits. Therefore, we used a variation of the standard ultimatum game to enhance between-participants variance in ultimatum offers. Hereto we introduced information asymmetry regarding the amount of money that would be distributed. We told participants that responders only knew the range but not the exact amount of the endowment. Responders cannot be certain as to what constitutes an equal split in such settings. This introduces ambiguity about what amount to consider an acceptable offer, and thereby more leeway to deviate from an equal split (see for similar arguments about the connection between information asymmetry and ambiguity (Wade-Benzoni, Tenbrunsel, & Bazerman, 1996; Loewenstein & Moore, 2003; van Dijk et al., 2008)). We anticipated that (some) proposers would take advantage of this ambiguity by making lower offers (for results of a similar manipulation see Mitzkewitz & Nagel, 1993; Kagel, Kim, & Moser, 1996). This should result in sufficient variance in offers to observe effects of the induced emotions.

Method

Participants and Procedure

Participants were 63 undergraduate students (75.4% female, $M_{\text{age}} = 18.9$ years, $SD = 1.30$), who came to the laboratory in groups of about six to eight people. Participants were seated in individual cubicles. The emotion-induction and the instructions and measures for the ultimatum game were presented consecutively in a series of unrelated studies from different researchers, which obscured their relation. Participants were randomly assigned to one of three conditions (Emotion: Control vs. Fear vs. Guilt).

Emotion Induction

An autobiographical recall procedure was applied to induce emotions (*cf.* De Hooge et al., 2007; Nelissen et al., 2007). The task was presented as a study on “memory and information processing”. Participants were asked to “describe in as much detail as possible” a recent event due to which they had felt very much afraid or guilty. In the control condition, they were asked to describe an ordinary day in their lives.

Ultimatum Offers

After the emotion induction, all participants received instructions to the ultimatum game and an envelope containing a number of chips. Each chip represented a value of 40 eurocents (about 0.60 US dollar). It was explained that they had to divide the chips with another participant. Participants were told that they could decide how to distribute the chips

between themselves and the other participant. The other participant could then accept or reject their offer, with the same consequences as in the standard ultimatum game. It was made clear that at the end of the session, every participant would be paid according to the outcome of this negotiation. In fact, all participants were assigned to the role of proposer.

It was further explicated that the envelopes they received contained a number between 10 and 25 chips. Participants were led to believe that the other participant did not know the exact number. All the other participant supposedly knew was that they received an envelope containing a number of chips in this range. In fact, all participants received 25 chips (making for a total endowment of €10). They put the number of chips they wanted to give to the other participant in another envelope, which they handed to the experimenter.

Emotion Manipulation Checks

After participants handed the envelopes back to the experimenter they were asked to reread their written accounts and to indicate how “guilty” and “afraid” they felt to check for the effectiveness of the emotion-induction. To exclude the possibility that potential effects were not due to feelings of fear and guilt, but should instead be ascribed to negative affect in general, participants also indicated how “bad” they felt. Items were rated on an 11-point scale (0 = *not at all*–10 = *very strongly*).

Debriefing

At the end of the session, all participants were first probed for suspicion and debriefed about the objectives of the study. No one expressed doubts about the authenticity of the interaction. It was explained that everyone had played the role of proposer and had received 25 chips. Subsequently, everyone was paid the amount represented by the number of chips that they did not give to the ‘other’ participant.¹

Results and Discussion

Emotion Manipulation Checks

A one-way ANOVA revealed significant between-group differences in participants’ ratings of fear, $F(2, 74) = 46.14$, $p < .001$, $\eta^2 = 0.56$, and guilt $F(2, 74) = 62.41$, $p < .001$, $\eta^2 = 0.63$, but not in ratings of negative affect in general, $F(2, 74) = 2.28$, *ns*. Confirming that the induction of fear was successful, post-hoc least-squared difference (LSD) comparisons showed that participants in the fear condition were more afraid ($M = 8.56$, $SD = 1.98$) than participants in the control ($M = 1.48$, $SD = 1.98$) and guilt conditions ($M = 4.00$, $SD = 3.62$), both $ps < .01$, and felt significantly more fear than guilt, $t(25) = 7.52$, $p < .001$, or negative affect in general, $t(25) = 4.04$, $p < .001$. Confirming that the induction of guilt

¹This procedure may have caused the undesirable effect that participants could have realized that their generosity actually benefited the experimenter rather than another participant, which in retrospect we believe to be an undesirable side-effect of this procedure.

was successful, post-hoc (LSD) comparisons showed that participants in the guilt condition felt more guilt ($M = 9.08$, $SD = 1.12$) than participants in the control ($M = 2.56$, $SD = 2.35$) and fear conditions ($M = 2.64$, $SD = 3.17$), both $ps < .001$, and felt significantly more guilt than fear $t(24) = 8.03$, $p < .001$, or general negative affect, $t(24) = 5.81$, $p < .001$.

Ultimatum Offers

As predicted, participants in both the fear ($M = 10.81$, $SD = 1.44$), and the guilt condition ($M = 10.52$, $SD = 1.54$) made significantly higher offers than in the control condition ($M = 9.29$, $SD = 2.12$), $F(2, 63) = 4.62$, $p = .014$, $\eta^2 = 0.13$. Post-hoc (LSD) comparisons revealed that offers were higher in both the fear ($p = .006$) and the guilt condition ($p = .024$) were higher than in the control condition. Hence, feelings of fear and guilt increase proposers' ultimatum offers.² This shows that inducing fear and guilt directly, produces the same effects as eliciting both emotions indirectly through manipulations that ostensibly affect the impact of strategic and non-selfish motives.

GENERAL DISCUSSION

Research on numerous manipulations of the standard ultimatum game suggests that proposers anticipate the implications of offers that responders consider to be insufficient, and that this may elicit concerns for rejection of the own outcome, as well as concerns for the other's outcome. However, we argued that one cannot conclusively infer the impact of these concerns from only considering the size of the ultimatum offer. Therefore, we redirected attention to the impact of emotions to gain insight into the psychological processes underlying ultimatum offers. We proposed that feelings of anticipated fear over low offers reflect the extent to which ultimatum proposals are motivated by concerns for rejection of the own outcome, and that feelings of anticipated guilt over inadequate offers reflect the extent to which ultimatum proposals are motivated concerns for others.

In two experimental studies we obtained results that were consistent with this idea. In Study 1, we found that anticipated fear and guilt uniquely accounted for the effects of two well-known manipulations of the standard ultimatum game. Specifically, the effects of a λ manipulation (Fellner & Güth, 2003) that varies the consequences of rejection to the proposer were mediated by feelings of anticipated fear. Similarly, the effects of a manipulation of initial ownership (Leliveld et al., 2008) that varies the extent to which the responder's concerns are taken into account were mediated by anticipated guilt. Study 2 corroborated the proposed role of fear and guilt by showing that both feelings also have a direct effect, matching that of the presumed underlying strategic and non-selfish motives in producing more generous ultimatum offers.

²We also ran this study with different payoffs. Similar patterns of results were obtained if proposers were asked to divide 2 or 5 euros. This suggests that the effects of fear and guilt on proposers' offers are not dependent upon the size of the endowment.

Further Considerations about the Role of Emotions in Ultimatum Bargaining

The present findings highlight the potential contribution of studying the influence of specific emotions to reveal the nature of the motives underlying behavior. We are aware of only a single other study that also used affective measures to identify the role of strategic and non-selfish motives in proposers' offers (Haselhuhn & Mellers, 2005). In this study, proposers indicated their anticipated pleasure over a range of possible payoffs (i.e., accepted offers) as well as their preference for each of these offers. It was found that some proposers derived pleasure from fairness, indicating highest preferences and most pleasure for equal offers whereas their preference and pleasure decreased as offers deviated from the 50–50 split. Self-interested proposers showed similar preferences, yet their pleasure linearly increased with the offer size. This latter discrepancy suggests that preferences are based on strategic considerations (or "strategic pleasure", cf. Haselhuhn & Mellers, 2005).

We believe the present, emotion-specific approach has one clear advantage to the use of affective rankings of offers in determining proposers' motives. The affective approach presents a *descriptive* index as proposers' motives are defined by a certain relation of preferences and pleasures. Investigating specific emotions on the other hand, provides a *process* account of decision-making in ultimatum bargaining. This allows for *a priori* predictions about the effects of manipulating the ultimatum game by specifying the consequences (i.e., elicitation or inhibition) of such manipulations for specific emotions. If aggregated into a general measure of affect, such effects can no longer be discerned.

We acknowledge that people's predictions about their feelings in different situations are unlikely to be completely accurate. This does not compromise the present findings. Throughout this paper we have shown that fear and guilt *systematically* vary as a result of differences in the strength of strategic and non-selfish motives. Whether or not, people's ratings of their feelings are completely accurate does not limit their use as an index of these motives. Even a biased thermometer can be used to measure differences in temperature.

One aspect that does deserve more detailed consideration, however, is the simultaneous use of anticipated and directly experienced emotions throughout our studies. It is generally acknowledged in the field of emotions that our decisions and behavior can be affected by our feelings in multiple ways (e.g., Loewenstein & Lerner, 2003). Obviously, experienced emotions may elicit behavior directly in accordance with the central concern underlying the emotion (cf. Arnold, 1960; Plutchik, 1980; Frijda, 1986; Roseman et al., 1994). This process accounted for the effects observed in Study 2. Notably, research indicates that such direct effects can emanate from experienced emotions that are relevant to the decision at hand, but also and with identical consequence, from emotions that are the experiential residue of other incidents that bear no relevance to the present decision (Lerner & Keltner, 2001).

Rather than directly, emotions may also affect behavior through an anticipatory process that elicits affective outcomes of different possible courses of action. The nature of the anticipated emotional outcome that results from this anticipatory

atory process depends upon the particular concern that is involved in the perceived consequence of a certain course of action. Again, this concern is emotion specific. As we saw in Study 1, variations in the decisions situation (i.e., different consequences of rejection or differences in initial ownership) affect the perceived implication of a certain course of action (a low offer) for a particular concern (i.e., for the own or the others outcome), which in turn affects the intensity of the anticipated feeling (fear or guilt) that is elicited. These anticipated emotions then affect the actual decision in a similar, goal-congruent direction as experienced emotions do. So, even though the nature of the cognitive process underlying the behavioral effects of direct and anticipated emotions is different, the results are ultimately identical.

On a final note, we wish to stress that we by no means claim that fear and guilt are the only relevant emotions in ultimatum bargaining. Several studies have already demonstrated that other emotions, such as regret (Zeelenberg & Beattie, 1997), and gratitude (Tsang, 2006) affect offers in ultimatum games. We would also expect that feelings of empathy (cf. Batson, 2006) and of anger towards the other player (cf. Pillutla & Murnighan, 1996) are important in negotiations. Moreover, recent studies show that emotions expressed by the interaction partner may affect the outcome of negotiations by eliciting reciprocal or antagonistic affective reactions (e.g., van Kleef, De Dreu, & Manstead, 2006; van Dijk et al., 2008). Ultimatum offers are determined in concert by strategic considerations that make proposers avoid rejection, and non-selfish considerations that make proposers consider the other's outcome as well. Other emotions moderate the impact of concerns for rejection and the self, or bring additional motives to the mix. However, fear and guilt merit special attention as they are the only two emotions that specifically and directly relate to the motives that are intrinsic to decisions in the ultimatum game.

The present study strictly focused on the proposers' side of ultimatum bargaining. Prior research has shown that responders tend to reject unequal, small offers. Whether or not concerns for others are involved in responders' decisions to accept or reject offers is equally subjected to debate (e.g., Pillutla & Murnighan, 1996, 2003). Recent research indicates that emotions are also useful to identify responders' motives. Specifically, it seems that concerns for fair treatment appear to be related to responders' feelings of anger, whereas responders' concerns for others' outcomes are also related to feelings of guilt (Nelissen & van Someren, 2009).

CONCLUSION

As stated, the present data illustrate the potential contribution of examining emotions to obtain an indication of the motives involved in ultimatum bargaining. The main reason for looking into the role of emotions in ultimatum bargaining was our conviction that we cannot exclusively infer motives from ultimatum offers alone, nor from changes in average offers due to various structural manipulations of the ultimatum game. By establishing that feelings of fear and guilt relate uniquely to concerns for rejection and to concerns for other people, the present data point out a clear distinction between knowledge about fairness and actual concerns for others (cf. Haidt, 2003).

That is, proposers who make generous ultimatum offers because they fear rejection do recognize that responders may evaluate their offer in terms of fairness criteria. Strategic considerations imply that the proposer is aware of and understands these criteria. Fear and fairness considerations are inextricably linked in that respect. However, the present data illustrate that fairness is not only about the understanding of a set of social norms or rules, but also about the specific feeling (i.e., guilt instead of fear) that accompanies their violation.

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